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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,258	09/01/2006	Wei Lih Lim	P30311	8419

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EXAMINER	
WOOD, JR, STEVEN A	

ART UNIT	PAPER NUMBER
2462	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/597,258	LIM ET AL.	
	Examiner	Art Unit	
	STEVEN WOOD	2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to Applicant's request for reconsideration of Application No. **10/597258**, which was filed on **07/23/2009**. Examiner hereby issues a final rejection of the claims.

Examiner's Comments

2. **Claims 1 – 24** are cancelled. **Claims 25 – 29** are newly presented. **Claims 25 – 29** are currently pending.

3. Applicant notes at full Pars. 5, 6, and 1 of Pgs. 10, and 11, respectively, that Examiner's previous rejections of various claims 1 – 24 are now rendered moot by Applicant's cancellation of these claims. Examiner provides new grounds of rejection for claims 25 – 29, as necessitated by this new presentation of claims, which justifies making the rejection of the claims final.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claim 26** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, claim 26 lacks support in specification for the first and second data compartment generators. In contrast, the specification only provides support for "a data compartment composer 1304," in the singular form, at line 22 Pg. 13. Therefore, the unsupported new matter is required to be cancelled from claim 26. Additionally, Examiner interprets the recited limitations of "a first generator" and "a second generator" in claim 26 to require only a single data compartment generator.

6. **Claim 29** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, claim 29 lacks support in specification for the recited limitation of "a computer readable medium." The specification contains no mention of a computer readable medium. At the closest, the specification contains various references to "computer readable aggregation packet frames," including at Par. 29. However, this would not provide support for the intended recitation of a physical storage medium.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. **Claims 25 - 29** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention is directed to non-statutory subject matter because as a model it falls within one of the Judicial Exceptions; "the laws of nature, physical phenomena, and abstract ideas have been held not patentable." *See Chakrabarty, 447 U.S. at 309, 206 USPQ at 197.* Comprising an abstract idea, to be eligible for patent protection, the claimed invention must provide for a practical application of the abstract idea… *See Diehr, 450 U.S. at 187, 209 USPQ at 8.* A claimed invention is directed to a practical application of a 35 U.S.C. 101 judicial exception when it: (A) "transforms" an article or physical object to a different state or thing; or (B) otherwise produces a useful, concrete and tangible result.

There is no physical transformation evidenced by the claimed invention. Therefore, the determination of whether the subject matter of the claimed invention is statutorily patent eligible rests on whether the claimed invention includes a practical application that yields a useful, concrete, AND tangible result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and concrete." For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. *See Fisher, 421 F.3d at 1372, 76 USPQ2d at 1230,* MPEP § 2107.

The method **claims 25, 27** are not tied to any particular physical structure or article of manufacture, nor do they transform the underlying subject matter. The apparatus **claims 26, 28**

do not recite any physical structures and could be entirely implemented within software. And the recitation of "a computer readable medium encoded with a data compartment aggregation packet frame," in **claim 29** is conceivably broad enough to include carrier wave signals and energy as the specification provides no guidance whatsoever as to Applicant's intended medium of "a computer readable medium." Additionally, all of the claims recite simple data structures which do not perform or undergo any significant or useful transformation.

9. **Claims 25, 27** are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to particular machine, or (2) transform underlying subject matter (such as an article or material) to a different state or thing. *See page 10 of In Re Bilski 88 USPQ2d 1385.* The instant claims are neither positively tied to a particular machine that accomplishes the claimed method steps nor transform underlying subject matter, and therefore do not qualify as a statutory process.

The composing and decomposing methods, including steps of generating various aspects of a packet frame and detecting, separating, and processing various aspects of a packet frame, respectively, are broad enough that the claim could be completely performed mentally, verbally or without a machine nor is any transformation apparent. For example the steps of generating in claim 25 simply construct various data structures, and the detecting, separating, and processing steps of claim 27 do not claim any significant or useful transformation of the underlying subject matter.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. **Claims 25 – 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho, et al., (US 20030169769 A1) (hereinafter Ho), in view of Yonge, III, et al., (US 6522650 B1) (hereinafter Yonge, III).

12. Regarding **claims 25, 26, 29**, Ho discloses a method for composing a data compartment aggregation packet frame, a composing apparatus that composes a data compartment aggregation packet frame, and a computer readable medium encoded with a data compartment aggregation packet frame, comprising: a first generator (claim 26), (Fig. 5; Par. 36; MAC sublayer 106).

Generating a first data compartment, (Figs. 6, 11; Par. 41; one or more frame subbody fields 132 (**data compartments**). Each subbody field 132 contains a MAC Service Data Unit (MSDU) or a fragment of an MSDU).

Including a compartment identifier, (Figs. 6, 11; Par. 41; header 116 preferably includes a frame subbody count field 126, and a sequence control field 128 (**compartment identifiers**)).

Provided with a compartment recipient address, (Par. 38; each fragment is transmitted in a separate frame with its own MAC header; Par. 57; a standard 802.11 data frame may include a receiver address and a destination address (**compartment recipient address**)).

A service data, (Par. 38; data field contains a MAC service data unit (MSDU) or a fragment thereof).

And a frame check sequence compartment, (Par. 38; each fragment is transmitted with its own FCS (**compartment FCS**) information).

A second generator (claim 26), (Fig. 5; Par. 36; MAC sublayer 106).

Generating a second data compartment, (Par. 46; aggregation frame 120 includes at least two subbody fields 132).

Including a compartment identifier, (Figs. 6, 11; Par. 41; header 116 preferably includes a frame subbody count field 126, and a sequence control field 128 (**compartment identifiers**)).

Provided with a compartment recipient address, (Par. 38; each fragment is transmitted in a separate frame with its own MAC header; Par. 57; a standard 802.11 (**MAC**) data frame includes four address fields that may include a receiver address and a destination address (**compartment recipient address**)).

A service data, (Par. 38; data field contains a MSDU or a fragment thereof).

And a frame check sequence compartment, (Par. 38; each fragment is transmitted with its own FCS (**compartment FCS**) information).

A combiner (claim 26), (Figs. 5; Par. 36; MAC sublayer 106).

Combining the first and second data compartments, being aligned (claim 29) to define a data carriage, (Figs. 6, 11; Par. 40; aggregation frame (**defined data carriage**) permits multiple MSDUs and/or multiple fragments of the same or different MSDUs to be placed into a single 802.11 MAC (media access control) frame).

A carriage header generator (claim 26), generating a carriage header that is located in front of the data carriage to define a carriage, (Par. 38; PHY layer may add on a PHY preamble and a PHY header).

A MAC header generator, generating a MAC header that is located in front of the carriage, (Par. 41; aggregation frame 120 contains a MAC header 116).

The MAC header including a portion allocated with a unique bit pattern, (Table I; Par. 46; the header 116 preferably includes a frame control field 122 and a sequence control field 128).

And a frequency check sequence generator, generating a frame check sequence for error detection in the MAC header and the carriage, (Figs. 6, 11; Par. 41; aggregation frame 120 comports with conventional 802.11 frame protocol in that it contains a MAC header 116, a frame body 118 and a frame check sequence (FCS) 134. The FCS 134 enables error detection and is implemented in accordance with conventional 802.11 protocol).

However, Ho does not explicitly teach *the method wherein the compartment recipient address of the first and second compartments represents an address of a first and a second station, respectively, and the MAC header includes a portion that stores a non-unicast recipient address associated with the first station and the second station.*

Yonge, III, explicitly discloses the method wherein the compartment recipient address of the first and second compartments represents an address of a first and a second station, respectively, (Figs. 1, 3; Col. 4, lines 36 – 38; network 10 includes network stations 12a, 12b . . . 12k coupled to a transmission medium or channel 14; Col. 8, lines 16 – 18; header 84 includes a

Segment Control field 106, and a Destination Address (DA) 108; Col. 8, lines 23 – 24; which comprises part of a MAC Service Data Unit (MSDU) 116).

And the MAC header includes a portion that stores a non-unicast recipient address associated with the first station and the second station, (Fig. 17; Col. 33, lines 13 – 17; transmitter prepares a multicast frame by setting the DA field, which stores a multicast destination address 272 representing the group of multicast addresses intended to receive the multicast frame or, alternatively, the individual addresses in the multicast group).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Ho by incorporating the teaching of Yonge, III to increase reliability of a multicast or broadcast transmission at the MAC (Yonge, III; Col. 1, lines 60 – 61).

13. Regarding **claims 27, 28**, Ho discloses a method for decomposing, and a decomposing apparatus that decomposes a data compartment aggregation packet frame having a MAC header, a carriage header and a plurality of data compartments, the decomposing method and decomposing apparatus comprising: a detector (claim 28), detecting a recipient address, (Par. 59; one or more of the network stations receive and store the destination addresses).

And a unique bit pattern located in a MAC header, (Par. 44; each subbody 132 has an associated sequence control field 128 which contain sequence control values for each of the frame subbodies 132. The sequence control field 128 may also include a fragment number. All fragments comprising an MSDU are assigned the same sequence number but incremental fragment numbers).

A separator (claim 28), separating the plurality of data compartments, (Par. 46; each subbody field 132 (**data compartment**) is zero padded by one octet so that successive frame subbodies begin on even octet boundaries).

And a processor (claim 28), processing all of the separated data compartments, (Par. 44; the unique sequence number enables a receiving station to process the MSDUs in the order in which they were transmitted).

Including a data compartment with a compartment identifier, (Figs. 6, 11; Par. 41; one or more subbody fields 132 contain a MAC Service Data Unit (MSDU) or a fragment of an MSDU. Header 116 preferably includes a frame subbody count field 126, and a sequence control field 128 (**compartment identifiers**)).

provided with a compartment recipient address, (Par. 38; each fragment is transmitted in a separate frame with its own MAC header; Par. 57; a standard 802.11 data frame may include a receiver address and a destination address (**compartment recipient address**)).

Which represents an address of the station with the decomposing apparatus, (Par. 16; aggregation frame is transmitted to a receiving station for decoding and recovering the aggregated data units; Par. 44; MAC sublayer 106 can accommodate uniquely identifiable multiple traffic streams between pairs of stations).

Ho does not explicitly teach *that the recipient address is a non-unicast recipient address which is associated with a plurality of stations including a station with the decomposing apparatus.*

Yonge, III explicitly discloses that the recipient address is a non-unicast recipient address which is associated with a plurality of stations including a station with the decomposing

apparatus, (Fig. 17; Col. 33, lines 13 – 17; transmitter prepares a multicast frame by setting the DA field, which stores a multicast destination address 272 representing the group of multicast addresses intended to receive the multicast frame or, alternatively, the individual addresses in the multicast group).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Ho by incorporating the teaching of Yonge, III to increase reliability of a multicast or broadcast transmission at the MAC (Yonge, III; Col. 1, lines 60 – 61).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Wood whose telephone number is (571) 270-7318. The examiner can normally be reached on Monday to Friday 8:00 AM to 4:00 PM.

If attempts to reach the above noted Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao, can be reached at the following telephone number: (571) 272-3174.

The fax phone number for the organization where this application or proceeding is assigned is 571-274-7318. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/S.W./
November 9, 2009
Steven A. Wood
Examiner
Art Unit 2462

/Donald L Mills/
Primary Examiner, Art Unit 2462